

Protocol for Out-of-Barn Biological Heat Treatment of Avian Influenza Infected Wastes

ENVIRONMENTAL PROTECTION DIVISION | November 2023

Purpose

The purpose of this protocol is to outline the conditions for delisting avian influenza related hazardous waste using Out-of-Barn Biological Heat Treatment (BHT), resulting in an exemption from the requirements of the Hazardous Waste Regulation (HWR). The objective of this protocol is to better support response to avian influenza outbreaks on farms.

Scope

This protocol only applies to Out-of-Barn BHT of avian influenza infected wastes (carcasses, feed, manure/litter) on the infected premise where the waste originates.

For all other treatment scenarios, including out-of-barn BHT at a location other than the infected premise, a separate S.53 delisting must be obtained for each site from the Ministry of Environment and Climate Change Strategy (ENV).

In addition, the protocol does not authorize storage or the land application of post-BHT material. These activities need to be compliant with the *Environmental Management Act* via the Organic Matter Recycling Regulation (OMRR), the Agricultural Environmental Management Code of Practice (AEM Code) and/or under directions issued by the ENV.

Background

Poultry carcasses, feed, and manure/litter that are suspected or known to contain avian influenza virus meet the definition of Hazardous Waste in the HWR (Class 6.2- Infectious Substances). The HWR can pose significant challenges to farmers, as it does not specifically regulate waste resulting from disease outbreaks on farms. The HWR requires that anyone treating hazardous waste register as a treatment or disposal facility, which would typically require multiple approvals under the HWR (e.g. section 4, 11, 14, 18). This work is time consuming and not feasible during a disease outbreak event, as it impedes the rapid and safe response to outbreaks.

Further, the risks posed to the environment and human health by BHT of this waste are not commensurate with the effort required for registering as a treatment facility under the HWR, given that the treatment is subject to the *Health of Animals Act* administered by the Canadian Food Inspection Agency (CFIA). After a premise is identified as positive for avian influenza, it is placed under quarantine by the CFIA, and disposal and broader cleaning and disinfection must follow CFIA requirements under the *Health of Animals Act*.

In the case of avian influenza infected material, BHT in accordance with the *Health of Animals Act* is an effective form of treatment as part of the broader cleaning and disinfection of a farm, when the waste quantity is sufficient to generate the temperatures required by BHT. In many cases, BHT is the preferred method for managing wastes by CFIA (although that depends on the site-specific needs). However, waste treated by BHT needs to be delisted under Section 53 of the HWR to be exempt from the requirements of the regulation.

Section 53 of the HWR allows for an exemption of HWR requirements if an approved protocol or method is followed to treat and/or dispose of the infectious material so it does not pose a threat to human health or the environment. Delisting the waste in this case is meant to exempt the HWR requirements for registration and plan approvals.

Confirmation of successful BHT is the first step to ensuring the material does not pose risks. Secondly, ENV requires confirmation the material post-BHT will be managed in a manner that does not pose risks to the environment or human health. Since post-BHT composting may have waste discharges (i.e., from storage, composting, and land applying the material), ENV requires confirmation of the location where the post-BHT material will be stored and/or composted **prior** to exempting the waste from the requirements of the HWR.

Protocol Conditions

For avian influenza infected waste to be delisted via BHT in compliance with this protocol, a person (i.e., farm owners/operator) must:

1. Comply with CFIA requirements for BHT under the *Health of Animals Act*, which includes meeting the time and temperature requirements of CFIA for virus inactivation
2. Ensure pile design, construction, and operation is overseen by CFIA staff or a Qualified Professional (as defined in the AEM Code)
3. Obtain CFIA certification of BHT Completion
4. Confirm the location where the post-BHT material will be stored and/or composted
5. Comply with requirements and follow procedures for Building Out-of-Barn BHT Compost Piles (instructions in Appendix A)
6. Submit supporting documentation to ENV (instructions in Appendix B)*

*BHT-treated material **must not be moved off-site** until ENV receives the information specified in 6.

Process for Obtaining Delisting

To support rapid and effective disease response, if ALL Protocol Conditions noted above are met, the Director does not need to issue letter to confirm delisting under HWR. Rather, if a person meets all the Protocol Conditions above, the waste is considered delisted under the HWR.

Post-BHT Waste Management

Questions related to storage, siting and land application of post-BHT material should be directed to the Communities, IPM & AgriFood Authorizations team within Regional Operations Branch, Environmental Protection Division at envcia@gov.bc.ca.



Cassandra Caunce
Director of Waste Management

November 16, 2023

Appendix A

Requirements for Building Out-of-Barn BHT Compost Piles

The requirements are as follows:

1. The site selected to conduct the out-of-barn BHT must be on high ground (e.g., no standing water or water-saturated soil), that is dry enough to be trafficable for heavy equipment and must meet the following minimum setbacks:
 - a. 100 meters from a neighbouring residence
 - b. 30 meters from a watercourse
 - c. 30 meters from a domestic water source, and
2. The composting piles must be monitored and maintained to ensure that vectors are controlled
3. CFIA staff or a Qualified Professional is required to calculate the size of the footprint required to accommodate the volume of material from the barn(s), including all wood residue, and poultry litter (manure) that is to be incorporated as the carbon source.
4. BHT out-of-barn must be carried out on an impermeable base, which is defined as:
 - a. a concrete pad
 - b. an asphalt surface
 - c. a temporary impermeable area, such as a plastic liner (minimum 0.152 mm (6 mil)) placed on the field. The plastic liner should be sized to fit the footprint of each windrow but does not have to cover the area in between windrows.
5. A 30 cm (11.8 inch) thick layer of coarse wood residue, such as hog fuel, is to be placed on the impermeable layer.
6. Poultry carcasses, bulking agent, and other infected materials (e.g., poultry litter) must be thoroughly mixed according to the recipe, in a manner that complies with biosecurity requirements under the Health of Animals Act (as administered by CFIA) before being moved to the composting area.
7. Once in composting area, waste must be spread on top of the base, leaving some margin at the edges of the base pad free of compost mix to prevent overflow.
8. To provide insulation, reduce emissions and suppress odours, a wood residue shavings blanket, of 30 cm (11.8 inch) thick, is to be placed over the infected materials
9. The BHT pile is then completely covered with a suitable air-permeable, water-shedding liner, (e.g., structural wrap material normally used for wind and rain protection of buildings).
 - a. The liner must be draped over the entire pile with adequate reserve for tucking the liner in under the wood residue base. The “tuck in” must be secured against strong winds or

other physical disturbances (e.g., with tires bound together with a rope that is slung over the pile).

10. A 30 cm high soil berm must be constructed between the windrow(s) and any existing drainage ditches that are connected to a watercourse.
11. Ensure that runoff is diverted away from the windrows
12. Any leachate generated from the windrows must be collected and contained and returned to the windrow
13. The out-of-barn BHT site and area must be maintained to prevent contaminated runoff, leachate or solids from escaping and entering a watercourse, crossing a property boundary, or going below the water table.
14. A representative from CFIA must monitor the temperature development in the windrow.
15. The site must be monitored to ensure integrity of materials and security of the site (e.g., vector attraction reduction, leachate collection and containment, fencing to keep out wildlife or domestic pets, ensuring leachate or solid materials do not enter a watercourse or go off the property).

Instructions:

Please complete all information requested in the table provided and submit the information by email as follows:

Subject line of the email should be as follows:

YYYY-MM-DD AI In-Barn Biological Heat Treatment - Notification – IPXXX
(e.g. 2022-09-01 AI In-Barn Biological Heat Treatment Notification – IP-010)

Submit the required information to envcia@gov.bc.ca.